6. (Once amended)The method of claim [1] 45, wherein said organic material is feces, urine, microbe, a chemical pollutant or a by-product thereof, and a food product or a by-product thereof.

11. (Once amended) The transgenic animal of claim [8] 56, wherein said organic material is feces, urine, microbe, a chemical pollutant or a by-product thereof, and a food product or a by-product thereof.

12. (Once amended) The transgenic animal of claim [8] 56, wherein said organic material is produced by said transgenic animal or by a different animal.

45. (Once amended) A method of producing [a protein] in the urine of a non-human transgenic animal a protein or a peptide that degrades or detoxifies organic material, said method comprising:

(a) providing a non-human transgenic animal having stably integrated into its genome an exogenous gene [construct] encoding a protein or peptide that degrades or detoxifies organic material comprising [5'] expression regulatory sequences[, including a kidney-specific promoter] operably linked to [an] said exogenous gene encoding said protein or peptide; and

(b) allowing said exogenous gene encoding said protein or peptide to be expressed and said protein or peptide to be secreted into the urine of said transgenic animal[; and

(c) collecting urine containing said protein from said animal].

46. (Once amended) The method of claim 45, further comprising:

(c) collecting said urine containing said protein or peptide from said animal; and

(d) separating said protein or peptide from said urine.

47. (Once amended) The method of claim 45, wherein said protein or peptide is [prothrombin, Factor VII, Factor IX, Protein C, Protein S, Factor V, Factor VIII, α1-antitrypsin, antithrombin III, fibrinogen, albumin, an immunoglobulin, a hormone, a growth factor, erythropoietin, a bone morphogenetic protein,] an enzyme[, and] or an enzyme inhibitor[or an ion channel protein].

52. (Once amended) The method of claim [45] 68, wherein said [5' expression] urinary tract-specific regulatory sequences are [obtained] selected from the group consisting of a uromodulin gene, a renin gene, a erythropoietin gene, an apolipoprotein E gene, an osteopontin gene, an urinary kallikrein gene, an urinary thrombomodulin gene, a uropontin gene, a nephrocalcin gene [or] and a aquaporin gene.

53. The method of claim [45] 68, wherein said kidney-specific regulatory sequence [promoter is] comprises a uromodulin promoter.

56. A non-human transgenic animal that produces in its urine a protein or peptide that degrades or detoxifies organic material, wherein said transgenic animal has stably integrated into its genome an exogenous gene [construct] encoding a protein or peptide that degrades or detoxifies organic material comprising [5'] expression regulatory sequences[, including a kidney-specific promoter] operably linked to [an] said exogenous gene encoding said protein or peptide that is detectable in the urine of said transgenic animal.

57. The transgenic animal of claim 56, wherein said protein or peptide is [prothrombin, Factor VII, Factor IX, Protein C, Protein S, Factor V, Factor VIII, α1-antitrypsin, antithrombin III, fibrinogen, albumin, an immunoglobulin, a hormones, a growth factor, erythropoietin, a bone morphogenetic protein,] an enzyme[, and] or an enzyme inhibitor [or an ion channel protein].

61. (Once amended) The transgenic animal of claim 57, wherein said enzyme is obtained from exthermophilic or thermophilic organisms.

62. The transgenic animal of claim [56] 72, wherein said [5' expression] urinary tract-specific regulatory sequences are [obtained] selected from the group consisting of a uromodulin gene, a renin gene, a erythropoietin gene, an apolipoprotein E, an osteopontin gene, an urinary kallikrein gene, an urinary thrombomodulin gene, a uropontin gene, a nephrocalcin gene [or] and a aquaporin gene.

63. The transgenic animal of claim 56 72, wherein said kidney-specific regulatory sequence [promoter is] comprises a uromodulin promoter.

64. The [method] transgenic animal of claim 56, wherein said transgenic animal is a mammal.

65. The transgenic animal of claim 56, wherein said transgenic animal is a pig, sheep, goat, cow, rodent, rabbit, horse, dog, cat, bird or reptile.

Kindly add the following claims:

--67. The method of claim 45, wherein said expression regulatory sequences comprise urinary tract-specific regulatory sequences that direct expression in cells of the urinary tract.

68. The method of claim 67, wherein said urinary tract-specific regulatory sequences are selected from the group consisting of a kidney-specific regulatory sequences and bladder-specific regulatory sequences.

69. The method of claim 68, wherein said urinary tract-specific regulatory sequences comprise a 5' urinary tract-specific regulatory sequence.

70. The method of claim 69, wherein said urinary tract-specific regulatory sequences comprise a 3' urinary-tract-specific regulatory sequence.

71. The transgenic animal of claim 56, wherein said expression regulatory sequences comprise urinary tract-specific regulatory sequences that direct expression in cells of the urinary tract.

72. The transgenic animal of claim 71, wherein said urinary tract-specific regulatory sequences are selected from the group consisting of a kidney-specific regulatory sequences and bladder-specific regulatory sequences.